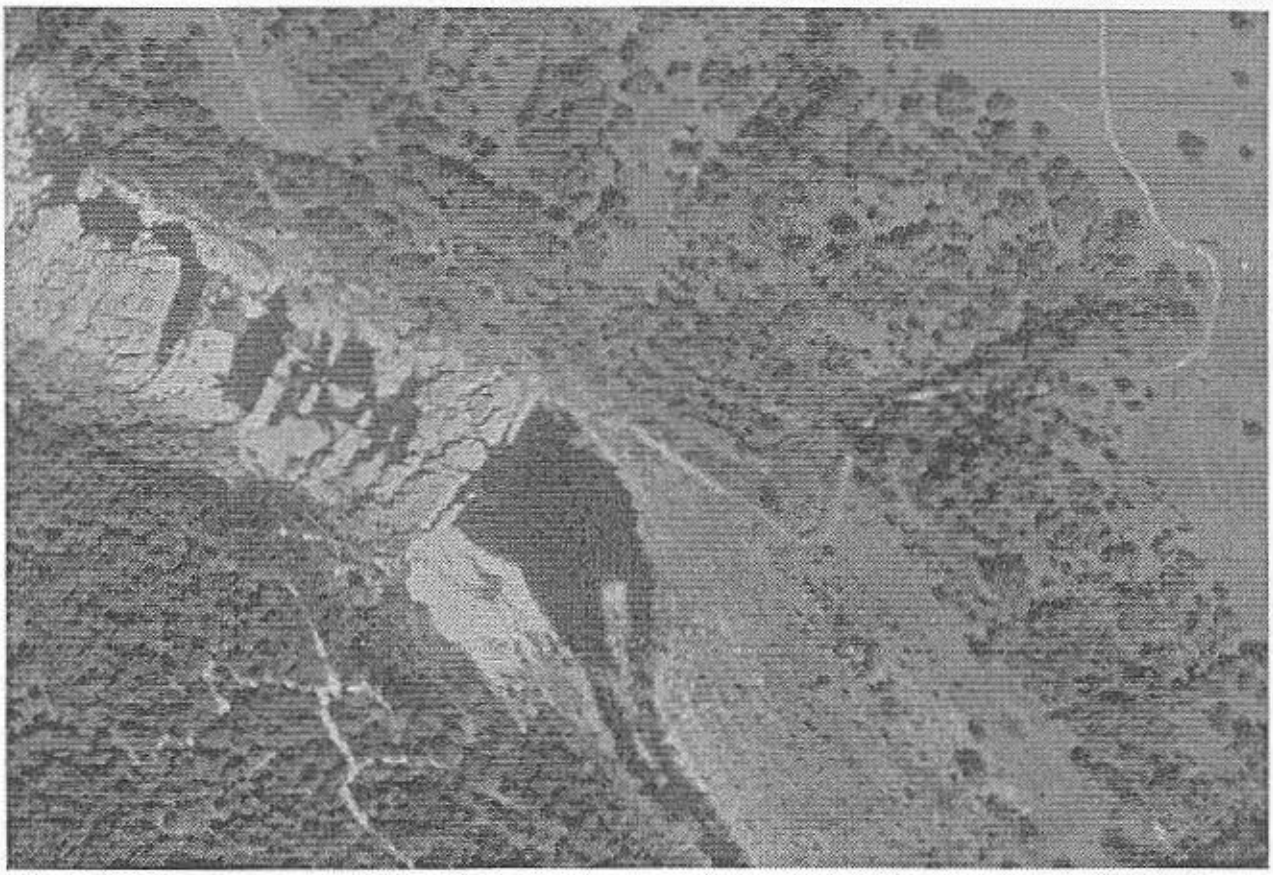
Reference 77

9532565

Texas Natural Resource Conservation Commission
Digital Geospatial Metadata

TNRCC One Meter Digital Orthophoto Quarter Quads



This is a portion of DOQQ 3098471 (Hammetts Crossing NW), showing Pedernales Falls at Pedernales Falls State Park.

Table of Contents

The following text conforms with the hierarchy of data elements in the FGDC Content Standards for Digital Geospatial Metadata.

1 IDENTIFICATION_INFORMATION:

1.1 Citation:
8.1 Originator: Texas Natural Resource Conservation Commission (TNRCC)
8.2 Publication_Date: 20000825
8.4 Title: TNRCC 3.75 Minute Digital Orthoimagery
8.6 Geospatial_Data_Presentation_Form: remote-sensing image
8.8 Publication_Information:
8.8.1 Publication_Place: Austin, TX
8.8.2 Publisher: TNRCC

1.2 Description:
1.2.1 Abstract:
A DOQ is a digital image of a high-altitude aerial photograph in which the displacements caused by the camera angle and surface variations of the photographed terrain have been removed. This gives a DOQ the same geometric properties as a paper map; it is thus possible to use a DOQ for the direct measurement of distances, areas, angles, and positions. A standard DOQ image covers 3.75 minutes of latitude by 3.75 minutes of longitude (one-quarter of a USGS 7.5 minute quadrangle); it has a ground resolution (the area of the ground represented in each pixel in x and y components) of one meter.

TNRCC has acquired these DOQs in a cost share arrangement with the USGS and in cooperation with the Texas Orthoimagery Program (TOP). These DOQs will eventually be distributed along with the TOP DOQs by the Texas Natural Resources Information System.

Listings of TNRCC DOQs are available, sorted by DOQQ EISYS number and sorted by DOQQ name.

1.2.2 Purpose:
A DOQ-derived base map of the State of Texas will provide a common framework for mapping standards and development across state agencies. A standardized base map will not only promote consistency in data collection and reporting procedures across Texas state agencies, but will also make possible easier access to data maintained by different agencies. The richness of the information content provided by DOQs improves the quality of the information used by decision makers, thus improving the basis for management decisions. Because DOQs are raster-based, it is possible to use them for on-screen digitizing of vector layers. Because National Aerial Photography Program (NAPP) photography is made every five years, obtaining DOQs for a geographic area make it possible to chart changes in land use and characteristics over time and thus makes temporal analysis possible. The detail of information provided by DOQs makes it possible to use them for locating fixed sites (such as water monitoring sites and water diversion points), which is less costly and time consuming than having field crews locate the points using Global Positioning System (GPS) receivers.

1.2.3 Supplemental_Information:
Supplemental information about DOQs can be obtained at the following locations. Standards for Digital Orthophotos 12/96 can be found at:
http://rmmcweb.cr.usgs.gov/public/nmpstds/acrodocs/doq/PDOQ1296.PDF
(This document requires an Acrobat reader.)

Background information on DOQs, including file structure and processing steps, can be found at:

http://edcwww.cr.usgs.gov/glis/hyper/guide/usgs_doq.

A detailed description of USGS DOQ processing and creation can be viewed http://mapping.usgs.gov/digitalbackyard/faqsnew.html

and at:
http://mapping.usgs.gov/mac/isb/pubs/factsheets/fs12995.html.

The USGS DOQ Metadata file can be viewed at:
http://edcwww.cr.usgs.gov/glis/fgdc/doq_qquad.html.

The file names follow the EISYS quarter quad numbering convention for 3.75-5 minute DOQs. In this convention:

Characters 1-2 represent the latitude in degrees North of the one-degree area containing the DOQ.

Characters 3-4 represent the longitude in degrees West of the one-degree area containing the DOQ.

Characters 5-6 are a two-digit number ranging from 01 to 64 that specifies the position of the USGS 7.5-minute quad that contains the DOQ. Quads are counted from west to east, starting with the north-most row.

Character 7 signifies the quarter-quad: NW=1, NE=2, SW=3, SE=4.

Character 8 is always capital "A". This signifies that the DOQ has a one meter ground resolution and is represented using 24 bits per pixel.

For example, the southeast DOQ of the Pflugerville West 7.5-minute quad would have an EISYS number of 3097354A, as represented in the TNRCC DOQQ Numbering Convention Demonstration.

****
NOTE: Due to a confirmed software bug in ArcInfo release 7.1.1, TNRCC has temporarily renamed all DOQQs so that the capital "A" is lower case "a".
****

1.3 Time_Period_of_Content:
9.3 Range_of_Dates/Times:
9.3.1 Beginning_Date: Unknown
9.3.3 Ending_Date: Unknown
1.3.1 Currentness_Reference: The DOQQs were derived from NAPP photography that was taken during 1995 and 1996. Exact dates for all photography vary with each individual DOQQ.

1.4 Status:
1.4.1 Progress: TNRCC currently holds 9,066 DOQQs in local storage (optical jukebox or CD-ROM). An additional 6,329 DOQQs are on order. A status map depicting the status of Texas DOQQs can be found at TNRCC Digital Orthophoto Quarter Quad Acquisition Project.

1.4.2 Maintenance_and_Update_Frequency:
As needed.

1.5 Spatial_Domain:
1.5.1 Bounding_Coordinates:
1.5.1.1 West_Bounding_Coordinate: -98.5
1.5.1.2 East_Bounding_Coordinate: -93.0
1.5.1.3 North_Bounding_Coordinate: 30.0
1.5.1.4 South_Bounding_Coordinate: 26.0

```
1.6       Keywords:
1.6.1        Theme:
1.6.1.1         Theme_Keyword_Thesaurus: None
1.6.1.2         Theme_Keyword: digital orthophoto quad
1.6.1.2         Theme_Keyword: 1-Meter DOQ
1.6.1.2         Theme_Keyword: DOQ
1.6.1.2         Theme_Keyword: DOQQ
1.6.1.2         Theme_Keyword: digital orthophoto
1.6.1.2         Theme_Keyword: digital orthoimage
1.6.1.2         Theme_Keyword: digital orthoimagery
1.6.1.2         Theme_Keyword: digital orthophoto quarter quad
1.6.1.2         Theme_Keyword: geo-referenced raster image
1.6.2        Place:
1.6.2.1         Place_Keyword_Thesaurus: None
1.6.2.2         Place_Keyword: Texas

1.7       Access_Constraints: None

1.8       Use_Constraints: Please credit the Texas Natural Resource
          Conservation Commission when using a DOQQ obtained from TNRCC
          in a published hardcopy or digital product.

1.9       Point_of_Contact:
10.1         Contact_Person_Primary:
10.1.1          Contact_Person: GIS Services Team
10.1.2          Contact_Organization: TNRCC
10.4         Contact_Address:
10.4.1          Address_Type: Mailing address
10.4.2          Address: P.O. Box 13087 (Mail Code 197)
10.4.3          City: Austin
10.4.4          State_or_Province: TX
10.4.5          Postal_Code: 78711-3087
10.4.6          Country: USA
10.5         Contact_Voice_Telephone: 512-239-3850
10.7         Contact_Facsimile_Telephone: 512-239-0888
10.8         Contact_Electronic_Mail_Address:
             ballison@tnrcc.state.tx.us


1.10      Browse_Graphic:
1.10.1       Browse_Graphic_File_Name:
             http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_jose.gif
             A small portion of DOQQ 2998451 (Southton NW).
             Mission San Jose south of downtown San Antonio
             is visible.
1.10.3       Browse_Graphic_File_Type: GIF89

1.10      Browse_Graphic:
1.10.1       Browse_Graphic_File_Name:
             http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_dam.gif
             A small portion of DOQQ 3097334 (Mansfield Dam SE).
             Mansfield Dam and a southern portion of
             Lake Travis are visible.
1.10.3       Browse_Graphic_File_Type: GIF89

1.10      Browse_Graphic:
1.10.1       Browse_Graphic_File_Name:
             http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_rock.gif
             A portion of DOQQ 3098263 (Enchanted Rock SW).
             Enchanted Rock and surroundings.
1.10.3       Browse_Graphic_File_Type: GIF89

1.10      Browse_Graphic:
1.10.1       Browse_Graphic_File_Name:
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            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_fall.gif
            A portion of DOQQ 3098471 (Hammetts Crossing NW).
            Pedernales Falls at Pedernales State Park.
            NOTE: This is the sample graphic shown at the top of
            this metadata file.
1.10.3      Browse_Graphic_File_Type: GIF89

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_clear_creek.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995323 (League City SW),
            showing creek and tanks NW of League City.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_inlet.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995324 (League City SE).
            Inlet to Galveston Bay at Kemah.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_lake_nassau.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995323 (League City SW).
            Creek and canal just south of Lake Nassau.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_marina.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995324 (League City SE).
            Boat marina on Clear Lake.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_nasa.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995323 (League City SW).
            Part of Johnson Space Center; note the Saturn V rocket near the top.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_p35.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 3097354 (Pflugerville West SE).
            TNRCC's headquarters at Park Thirty Five in Austin.
            NOTE: This DOQQ was acquired by the TOP program. We have published this
            DOQQ with the TNRCC DOQQs for experiment and verification purposes. TOP
            DOQQs are distributed by TNRIS.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10    Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_power_plant.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995323 (League City SW).
            Power plant NW of League City.
1.10.3      Browse_Graphic_File_Type: GIF87
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1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_suburb.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2995323 (League City SW).
            Residential suburb in Clear Lake City.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_tanks.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2797131 (Corpus Christi NW).
            Petroleum tank farm near Corpus Christi.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_wetlands.gif
1.10.2      Browse_Graphic_File_Description:
            A small portion of DOQQ 2897554 (Mission Bay SE).
            Mouth of Mission Bay and nearby wetlands.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_san_jacinto.gif
            Browse_Graphic_File_Description:
            A small portion of DOQQ 2995163 (Highlands SW).
            Battleship Texas and San Jacinto Monument.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_cavasso.gif
            Browse_Graphic_File_Description:
            A small portion of DOQQ 2896491 (Saint Charles Bay NW).
            Cavasso Creek Bridge.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_port_aransas.gif
            A small portion of DOQQ 2797161 (Port Aransas NW).
            Aransas Channel, Harbor Island.
1.10.3      Browse_Graphic_File_Type: GIF87

1.10     Browse_Graphic:
1.10.1      Browse_Graphic_File_Name:
            http://www.tnrcc.state.tx.us/gis/metadata/gifs/doq_aransas_river.gif
            A small portion of DOQQ 2895534 (Cranell SE).
            Aransas River Bridges.
1.10.3      Browse_Graphic_File_Type: GIF87

1.11     Data_Set_Credit:

1.13     Native_Data_Set_Environment:
         A total of 17,255 DOQQs lie within the boundaries of the state
         of Texas.  A total of 17,268 DOQQs are necessary to represent
         the state of Texas and immediate environs.  Of these DOQQs, ten
         (10) lie in all-water areas and 1,863 (10.78%) have not been
         funded.  Of the remaining DOQQs, 6,329 (36.65%) are on order.
         TNRCC has the remaining 9,066 (52.5%) in local storage. These
         figures and a status map of Texas DOQQs can be found at
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TNRCC Digital Orthophoto Quarter Quad Acquisition Project.

Of the 9,066 TNRCC-held DOQQs, 502 reside on an optical jukebox on TNRCC's Unix network in Austin. The remainder are either stored on an EMC disc array or on CD-ROM.

The vast majority of these DOQQs (8,931) are in TIFF (Tag Image File Format), which means that each DOQQ is comprised of two files: a a standard 8-bit color lookup, uncompressed TIFF file with the extension ".tif", and a "TIFF World File" with the extension ".tfw". The TFW file contains affine transformation parameters that allow some applications (such as ArcInfo, ArcView and ERDAS Imagine) to treat the tif as a geo-referenced spatial dataset. The TIFF files average approximately 157 megabytes (MB) in size, while the TFW files are 46 or 222 bytes in size.

Of the remaining DOQQs, 83 (all of which are stored on CD-ROM) are in GeoTIFF format. DOQQs in this format consist of only a single GeoTIFF file with a ".tif" extension; the world file information is included in the header.

Ten (10) DOQQs (lying within the Shallowater, Willow Creek, and Lubbock East 7.5-minute quadrangles, in the Texas Panhandle) are stored in Black & White GeoTIFF (gtbw) format on CD-ROM. Each GeoTIFF file comprises roughly 51 MB.

An additional 42 DOQQs are stored in Black & White TIFF (tfbw) format on CD-ROM.

2 DATA_QUALITY_INFORMATION:

2.1 Attribute_Accuracy:
2.1.1 Attribute_Accuracy_Report: Not Applicable

2.2 Logical_Consistency_Report: Not Applicable

2.3 Completeness_Report:
Further information on digital orthophoto quads is available in Standards for Digital Orthophotos, published by USGS, 7/92 and 12/96.

2.4 Positional_Accuracy:
2.4.1 Horizontal_Positional_Accuracy:
2.4.1.1 Horizontal_Positional_Accuracy_Report:
The One Meter DOQ is cast on the Universal Transverse Mercator (UTM) projection, using the NAD83 datum.

2.4.1.2 Quantitative_Horizontal_Positional_Accuracy_Assessment:
2.4.1.2.1 Horizontal_Positional_Accuracy_Value: 10
2.4.1.2.2 Horizontal_Positional_Accuracy_Explanation:
All of the DOQs meet National Map Accuracy Standards (NMAS) at the 1:12,000 scale. These standards specify that 90 percent of all well-defined points in the DOQs tested for positional accuracy must fall within 10 meters of their actual location on the ground. The USGS has verified and accepted these datasets. TNRCC personnel tested the accuracy of the DOQs in a field survey during March 1996 using differentially corrected GPS. Forty-seven points were tested, and all met or exceeded NMAS Standards: all fell within 10 meters of their actual ground locations; of these, 35 fell within

five meters of their ground locations.

2.5 Lineage:
2.5.1 Source_Information:
2.5.1.1 Source_Citation:
8.1 Originator: USGS
8.2 Publication_Date: Unknown
8.4 Title: USGS Digital Orthophoto Quarter Quads
8.8 Publication_Information:
2.5.1.2 Source_Scale_Denominator: 40000
2.5.1.3 Type_of_Source_Media: 8-mm cartridge tape or CD-ROM disc
2.5.1.4 Source_Time_Period_of_Content:
2.5.1.4.1 Source_Currentness_Reference: ground condition
2.5.1.5 Source_Citation_Abbreviation:
2.5.1.6 Source_Contribution:
2.5.2 Process_Step:
2.5.2.1 Process_Description:
The DOQQs for the Texas City area, San Antonio-Nueces Coastal Basin, and Laguna Madre were obtained from the U.S. Geological Survey in BIP (Band Interleaved by Pixel) format on 8-mm tape, using the header format described in the USGS publication Standards for Digital Orthophotos of July 1992. They were placed in TNRCC local storage on an optical jukebox server on TNRCC's Unix network in Austin using the following procedures:

1. The DOQ BIP files are imported from 8-mm tape using the "dd" command.
2. A header file containing required data for georeferencing is created by using UNIX commands to clip specified data fields from the BIP header records.
3. The DOQ quarter quad number (in EISYS format) is calculated from data contained in the BIP file header records.
4. A reference polygon is created using ArcInfo. This coverage is based on the coordinates contained in the DOQ quarter quad number (EISYS format). It will be used for certification.
5. The BIP file is converted to TIFF format using the ArcInfo CONVERTIMAGE command. This step also generates a TIFF World file (.tfw) that contains georeferencing information.
6. DOQ is certified for positional and content accuracy.
7. The DOQQ in TIFF format and its associated .tfw file are copied onto the TNRCC optical server.

2.5.2.2 Source_Used_Citation_Abbreviation: Unknown
2.5.2.3 Process_Date: April 1997 - January 1998

2.5.2 Process_Step:
2.5.2.1 Process_Description:
The DOQQs for the mouth of the Rio Grande area were obtained from the U.S. Geological Survey in BIP (Band Interleaved by Pixel) format on CD-ROM disc, using the header format described in the USGS publication Standards for Digital Orthophotos of December 1996. They were placed in TNRCC local storage on an optical jukebox server on TNRCC's Unix network in Austin using the following procedures:

1. The DOQQ BIP files were copied from their CD-ROM disc using the UNIX "cp" command onto a workstation hard drive.
2. Each BIP file copied into the hard drive was given a suffix of .bip.
3. A header file for each DOQQ to be converted was created

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manually using the "vi" command in UNIX. Each header file contained the following data; the data were obtained from the BIP file header for each DOQQ:

DOQQ Name
EISYS Number
nrows
ncols
nbands (always 3)
nbits (always 8)
layout (always bip)
skipbytes
ulxmap
ulymap
xdim (always 1)
ydim (always 1)

4. The BIP file was converted to TIFF format using the ArcInfo CONVERTIMAGE command. This step also created a .tfw file containing georeferencing information.
5. The DOQQ was certified for positional and content accuracy.
6. The DOQQ .tif and .tfw files were copied onto local storage.

2.5.2.2 Source_Used_Citation_Abbreviation: Unknown
2.5.2.3 Process_Date: October 1998

2.5.2 Process_Step:
2.5.2.1 Process_Description:
The DOQQs for TOP Orders 1 through 99 were obtained directly from the Texas Natural Resources Information System (TNRIS) in TIFF or GeoTIFF format on CD-ROM.
2.5.2.2 Source_Used_Citation_Abbreviation: Unknown
2.5.2.3 Process_Date: In progress

3 SPATIAL_DATA_ORGANIZATION_INFORMATION:

3.2 Direct_Spatial_Reference_Method: Raster

3.3 Raster_Object_Information:
3.3.1 Raster_Terms_Description:
3.3.1.1 Raster_Object_Type: Pixel
3.3.1.2 Row_Count: Approximately 7650. Varies with each DOQ.
3.3.1.2 Column_Count: Approximately 6850. Varies with each DOQ.

4 SPATIAL_REFERENCE_INFORMATION:

4.1 Horizontal_Coordinate_System_Definition:
4.1.2 Planar:
4.1.2.1 Map_Projection:
4.1.2.1.1 Map_Projection_Name: Transverse_Mercator
4.1.2.2 Grid_Coordinate_System:
4.1.2.2.1 Grid_Coordinate_System_Name: Universal Transverse Mercator
4.1.2.2.1.1 UTM_Zone_Number: 13, 14, and 15
4.1.4 Geodetic_Model:
4.1.4.1 Horizontal_Datum_Name: NAD83
4.1.4.2 Ellipsoid_Name: Geodetic Reference System 80

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5 ENTITY_AND_ATTRIBUTE_INFORMATION:

5.2 Overview_Description:
5.2.1 Entity_and_Attribute_Overview:
DOQs contain no entities or attributes per se. Each one-meter pixel is represented by Red, Green, and Blue brightness values, each in a range from 0 to 255.

6 DISTRIBUTION_INFORMATION:

6.1 Distributor:
10.1 Contact_Person_Primary: GIS Services Team
10.2 Contact_Organization_Primary: TNRCC
10.4 Contact_Address:
10.4.1 Address_Type: mailing address
10.4.2 Address: P. O. Box 13087 (Mail Code 197)
10.4.3 City: Austin
10.4.4 State_or_Province: TX
10.4.5 Postal_Code: 78711-3087
10.4.6 Country: USA
10.5 Contact_Voice_Telephone: 512-239-3850
10.7 Contact_Facsimile_Telephone: 512-239-0888
10.8 Contact_Electronic_Mail_Address:
ballison@tnrcc.state.tx.us

6.2 Resource_Description: TNRCC-DOQ

6.3 Distribution_Liability:
Although these data have been processed successfully on a computer system at the Texas Natural Resource Conservation Commission, no warranty expressed or implied is made by the TNRCC regarding the utility of the data on any other system, nor shall the act of distribution constitute any such warranty.

6.4 Standard_Order_Process:
6.4.2 Digital_Form:
6.4.2.1 Digital_Transfer_Information:
6.4.2.1.1 Format_Name: TIFF
6.4.2.1.2 Format_Version: 6.0
6.4.2.1.3 File_Decompression_Technique:
6.4.2.1.4 Transfer_Size: From 155 MB to 160 MB
6.4.2.2 Digital_Transfer_Option:
6.4.2.2.1 Online_Option:
6.4.2.2.1.1 Computer_Contact_Information:
6.4.2.2.1.1.1 Network_Address:
6.4.2.2.1.1.1.1 Network_Resource_Name:
To access the DOQQs on CD-ROM or local storage, call the Distributor Contact listed above.

6.7 Available_Time_Period: Immediate

7 METADATA_REFERENCE_INFORMATION:

7.1 Metadata_Date: 20000825

7.2 Metadata_Review_Date: 20000825

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7.3      Metadata_Future_Review_Date: unknown

7.4      Metadata_Contact:
10.1        Contact_Person_Primary: GIS Services Team
10.2        Contact_Organization_Primary: TNRCC
10.4        Contact_Address:
10.4.1         Address_Type: mailing address
10.4.2         Address: P. O. Box 13087 (Mail Code 197)
10.4.3         City: Austin
10.4.4         State_or_Province: TX
10.4.5         Postal_Code: 78711-3087
10.4.6         Country: USA
10.5        Contact_Voice_Telephone: 512-239-3850
10.7        Contact_Facsimile_Telephone: 512-239-0888
10.8        Contact_Electronic_Mail_Address:
            ballison@tnrcc.state.tx.us

7.5      Metadata_Standard_Name:
         FGDC Content Standards for Digital Geospatial Metadata

7.6      Metadata_Standard_Version: 19970401

7.7      Metadata_Time_Convention: Local Time

7.8      Metadata_Access_Constaints: None

7.9      Metadata_Use_Constaints: None

7.10     Metadata_Security_Information:
            Metadata_Security_Classification_System: None
            Metadata_Security_Classification: Unclassified
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